FLIGHT SUMMARY REPORT

Flight Number: 97-006-05

Calendar/Julian Date: 20 June 1997 • 171

Sensor Package: Wild-Heerbrugg RC-30

Area(s) Covered: Mojave

Investigator(s): Stine, USGS

Aircraft #: 798
Department of Energy
B200 King Air

SENSOR DATA

Accession #:	05200	05201
Sensor ID #:	017	017
Sensor Type:	RC-30	RC-30
Focal Length:	6” 152.75 mm	6” 152.75 mm
Film Type:	Aerochrome MS 2448	Aerochrome MS 2448
Filtration:	HF3 + 2.2 AV	HF3 + 2.2 AV
Spectral Band:	420-700 nm	420-700 nm
f Stop:	Variable	Variable
Shutter Speed:	Variable	Variable
# of Frames:	227	337
% Overlap:	60	60
Quality:	Excellent	Excellent

Remarks:

Airborne Science and Applications Program

The Airborne Science Branch at NASA's Dryden Flight Research Center, Edwards, California, operates two ER-2 high altitude aircraft in support of NASA earth science research. The ER-2s are used as readily deployable high altitude sensor platforms to collect remote sensing and in situ data on earth resources, celestial phenomena, atmospheric dynamics, and oceanic processes. Additionally, these aircraft are used for electronic sensor research and development and satellite investigative support.

The ER-2s are flown from various deployment sites in support of scientific research sponsored by NASA and other federal, state, university, and industry investigators. Data are collected from deployment sites in Kansas, Texas, Virginia, Florida, and Alaska. Cooperative international scientific projects have deployed the aircraft to sites in Great Britain, Australia, Chile, and Norway.

Photographic and digital imaging sensors are flown aboard the ER-2s in support of research objectives defined by the sponsoring investigators. High resolution mapping cameras and digital multispectral imaging sensors are utilized in a variety of configurations in the ER-2s' four pressurized experiment compartments. The following provides a description of the digital multispectral sensor(s) and camera(s) used for data collection during this flight.

Department of Energy Remote Sensing Laboratory

The NASA Airborne Science and Applications Program at Ames Research Center contracted with the Department of Energy Remote Sensing Laboratory (RSL) in Las Vegas, Nevada to fly the RSL Multispectral Scanner (MSS) and the NASA Thermal Infrared Multispectral Scanner (TIMS) over the desert southwest. The scanners were flown on the DOE Cessna Citation.

The Cessna Citation is a low and medium altitude, moderate speed aircraft. It can operate from 4,000 to 35,000 feet above sea level at speeds between 135 and 225 knots. There are two instrument ports in the aircraft. The RSL 1268 Multispectral Scanner was mounted over the aft port and the NASA Thermal Infrared Multispectral Scanner was mounted over the forward port.

Camera Systems

Various camera systems and films are used for photographic data collection. Film types include high definition color infrared, natural color, and black and white emulsions. Available photographic systems are as follows:

- Wild-Heerbrugg RC-10/RC-30 metric mapping camera
  - 9 x 9 inch film format
  - 6 inch focal length lens provides area coverage of 16 x 16 nautical miles from 65,000 feet
  - 12 inch focal length lens provides area coverage of 8 x 8 nautical miles from 65,000 feet

- Hycon HR-732 large scale mapping camera
  - 9 x 18 inch film format

- 24 inch focal length lens provides area coverage of 4 x 8 nautical miles from 65,000 feet

- IRIS II Panoramic camera
  - 4.5 x 34.7 inch film format
  - 24 inch focal length lens
  - 90 degree field of view provides area coverage of 2 x 21.4 nautical miles from 65,000 feet

The U.S. Geological Survey's EROS Data Center at Sioux Falls, South Dakota serves as the archive and product distribution facility for NASA-Ames aircraft acquired photographic and digital imagery. For information regarding photography and digital data (including areas of coverage, products, and product costs) contact EROS Data Center, Customer Services, Sioux Falls, South Dakota 57198 (Telephone: 605-594-6151).

Information on data tape format, logical record format, and scanner calibration data may be obtained from the Aircraft Data Facility, NASA-Ames Research Center, Mail Stop 240-6, Moffett Field, California 94035-1000 (Telephone: 650-604-6252).

CAMERA FLIGHT LINE DATA
FLIGHT NO. 97-006-05

Accession # 05200

Sensor # 017

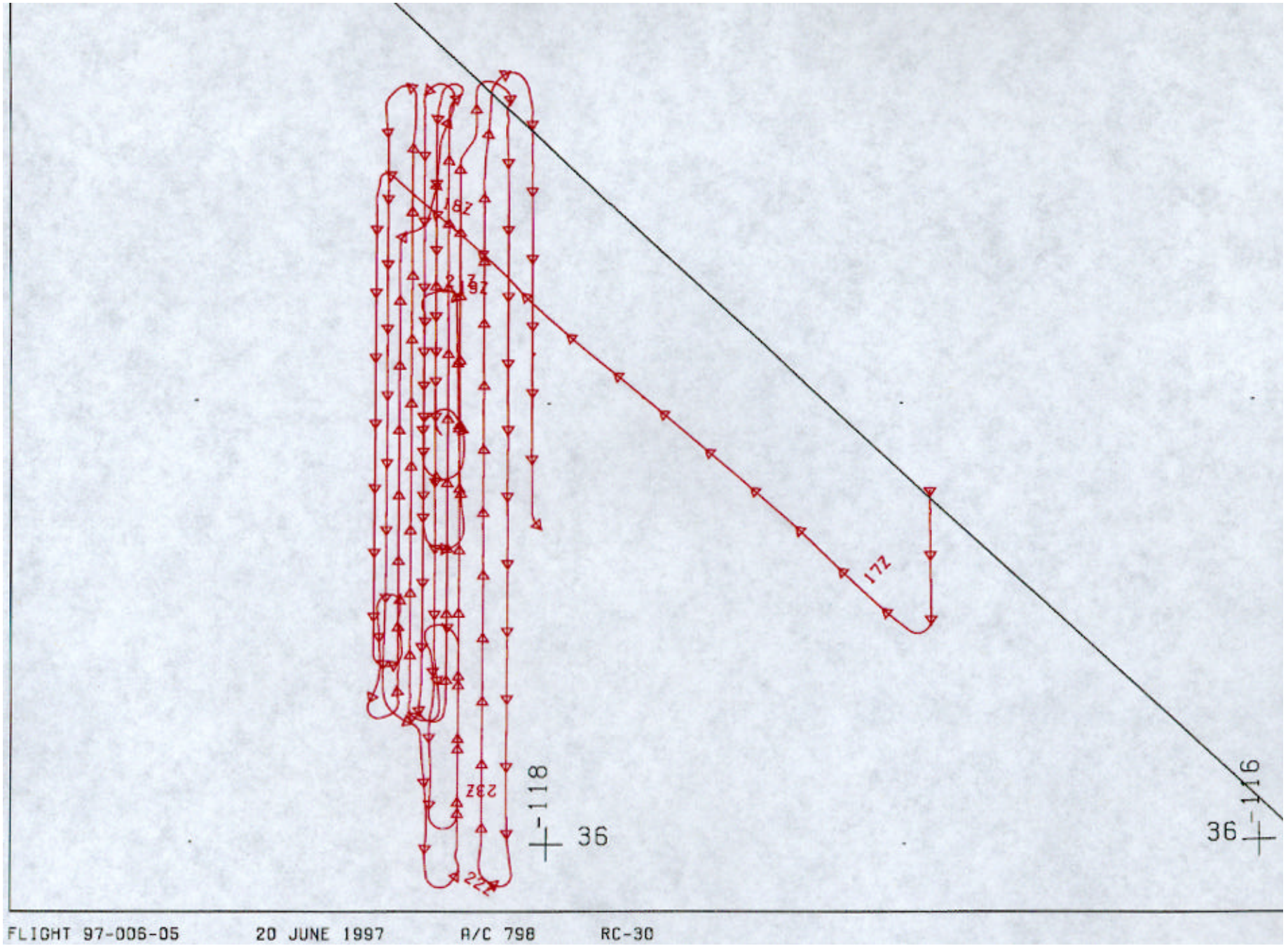
Site #	Line #	Run #	Frame #	Time (GMT-hr, min, sec) START	Time (GMT-hr, min, sec) END	Altitude, MGL feet/meters	Cloud Cover/Remarks
700	10	1	0219-0223	16:53:02	16:54:30	22060/6724	Clear
700	33	1	0224-0273	17:23:55	17:35:09	21930/6684	Clear
700	__	__	0274-0274	17:38:07	17:38:07	22200/6767	Clear; oblique frame (Big Five Lakes, CA)
700	32	1	0275-0324	17:46:55	17:57:59	22008/6708	Clear
700	31	1	0325-0344	18:07:23	18:14:11	21900/6675	Clear
700	31	2	0345-0352	18:20:45	18:22:43	22088/6732	Clear
700	31	3	0353-0384	18:36:38	18:43:44	22012/6709	Clear
700	30	1	0385-0429	18:49:58	19:03:32	21976/6698	Clear
700	44	1	0430-0445	19:09:59	19:15:13	22000/6706	Clear; light struck -- end of film magazine (frame 0445)

CAMERA FLIGHT LINE DATA
FLIGHT NO. 97-006-05

Accession # 05201

Sensor # 017

Site #	Line #	Run #	Frame #	Time (GMT-hr, min, sec) START	Time (GMT-hr, min, sec) END	Altitude, MGL feet/meters	Cloud Cover/Remarks
700	44	2	0001-0030	21:00:27	21:10:39	21970/6696	10-20% cumulus (frames 0020-0026)
700	45	1	0031-0082	21:17:22	21:31:11	22000/6706	10% cumulus (frame 0039); 30% cumulus (frame 0042)
700	46	1	0083-0122	21:37:39	21:48:08	21928/6684	Clear
700	46	2	0123-0129	22:02:51	22:04:36	22000/6706	Clear
700	43	1	0130-0184	22:18:13	22:35:34	21975/6698	10-70% cumulus (frames 0149-0159)
700	41	1	0185-0247	22:42:12	23:00:11	21990/6703	10% cumulus (frame 0226)
700	42	1	0248-0266	23:06:46	23:11:57	21958/6693	Clear
700	42	2	0267-0302	23:13:27	23:25:46	21914/6679	Clear
700	40	1	0303-0337	23:32:55	23:42:31	21914/6679	10% cumulus (frame 0337)



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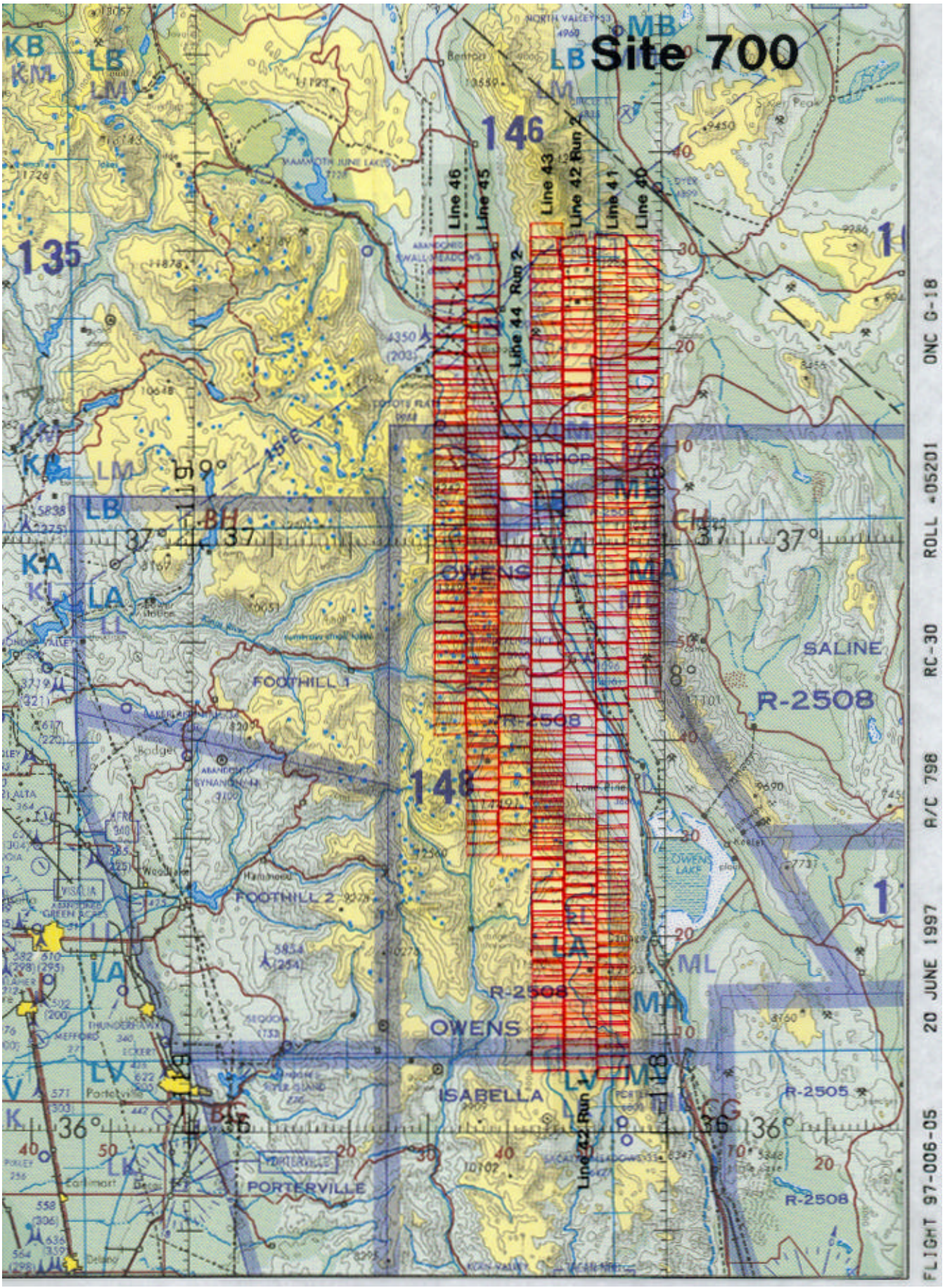
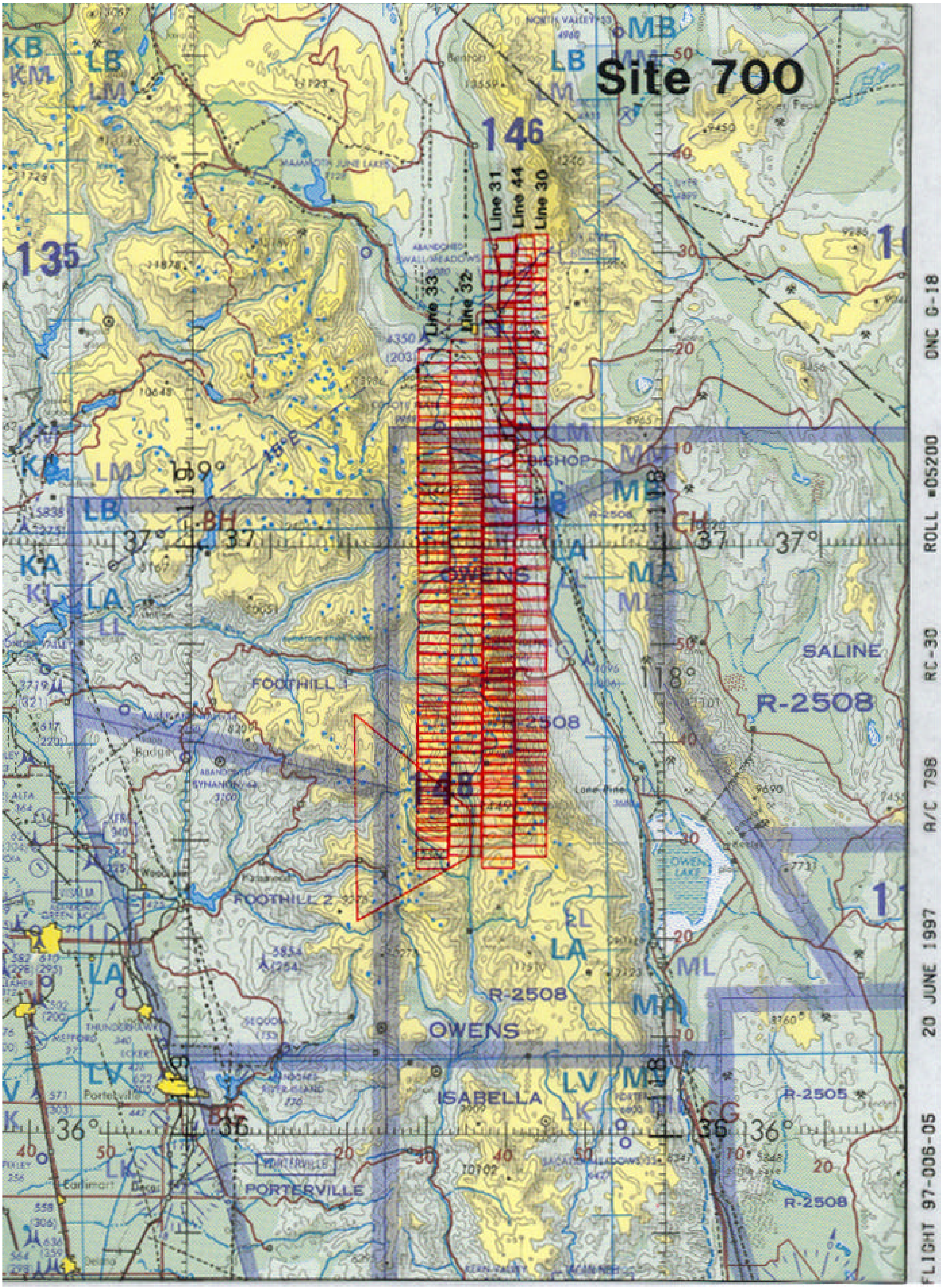
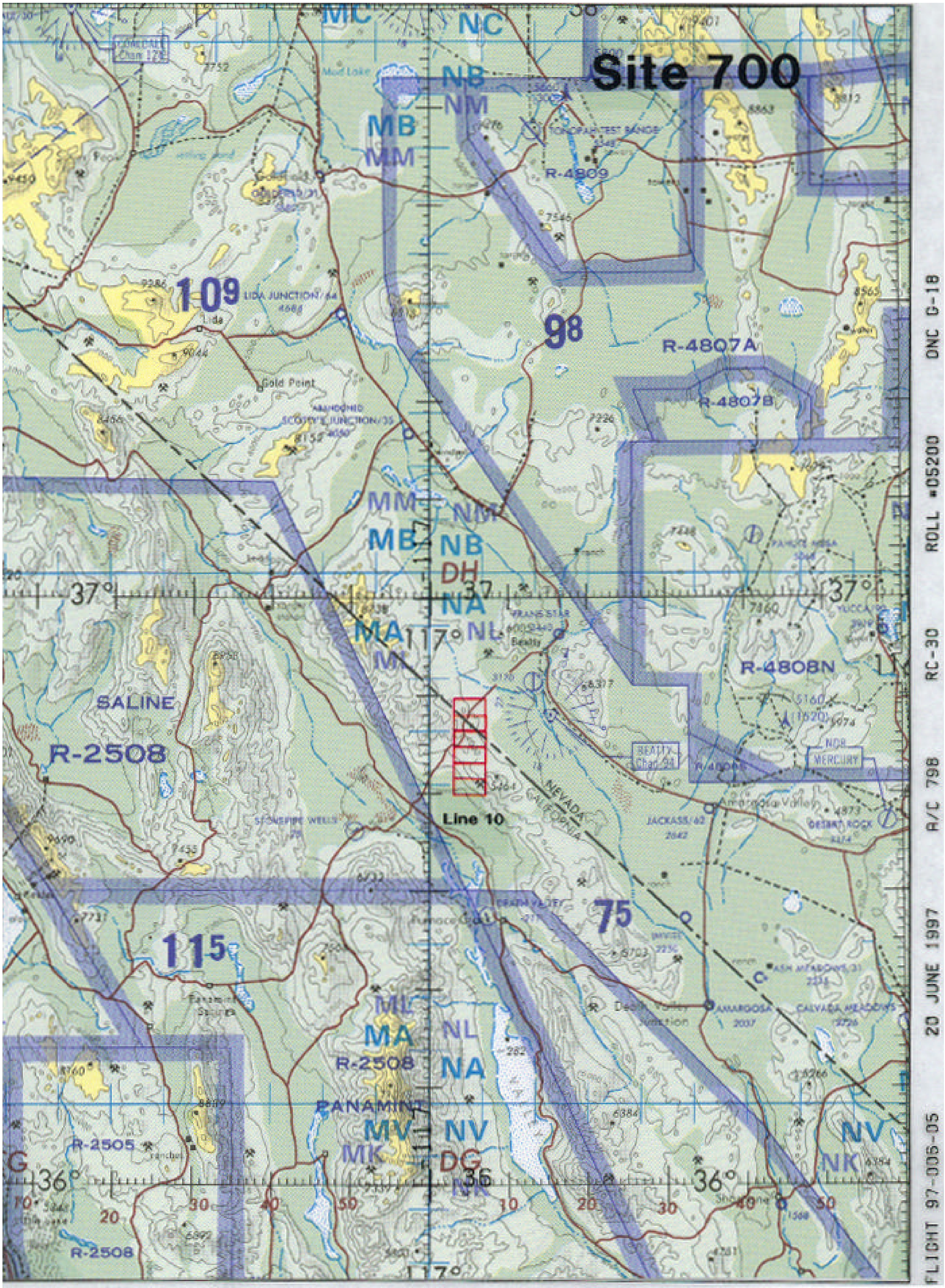

Site 700
Line 46
Line 45
Line 44 Run 2
Line 43
Line 42 Run 2
Line 41
Line 40
Line 42 Run 1
146
148
135
R-2508
R-2505
OWENS
SALINE
FOOTHILL 1
FOOTHILL 2
ISABELLA
PORTERVILLE
BISHOP
37°
36°
FLIGHT 97-006-05 20 JUNE 1997 A/C 798 RC-30 ROLL +052DI ONC G-18



Site 700
Line 31
Line 44
Line 30
Line 33
Line 32
146
135
148
BISHOP
OWENS
FOOTHILL 1
FOOTHILL 2
SALINE
R-2508
ISABELLA
PORTERVILLE
FLIGHT 97-006-05 20 JUNE 1997 A/C 798 RC-30 ROLL #05200 ONC G-18


Site 700
Line 10
R-4809
R-4807A
R-4807B
R-4808N
R-2508
R-2505
SALINE
PANAMINT
NEVADA
CALIFORNIA
Lida
Gold Point
Beatty
Death Valley Junction
FLIGHT 97-005-05 20 JUNE 1997 R/C 798 RC-30 ROLL #05200 ONC G-18